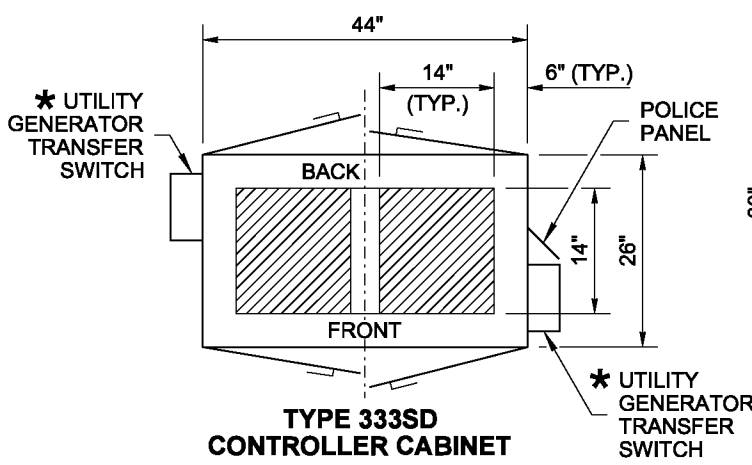
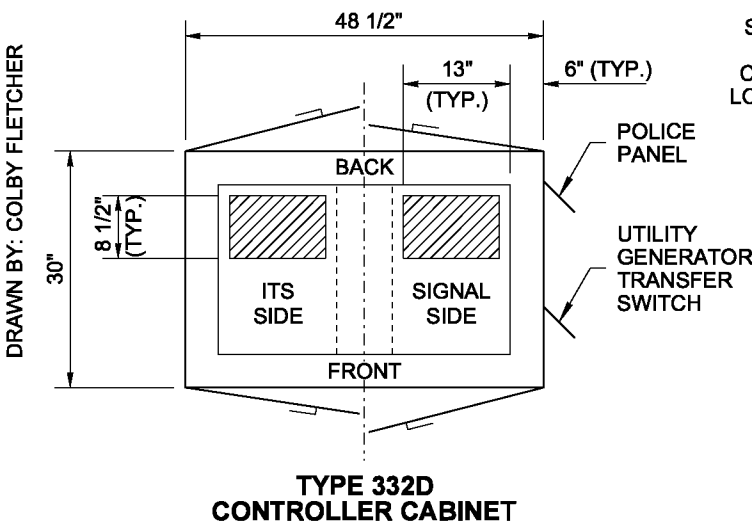


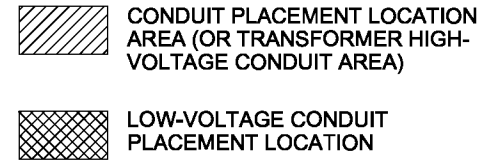
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* TO BE INSTALLED BY REGION MAINTAINANCE PERSONNEL ~ PROVIDE A 15' (FT) PIGTAIL (SEE NOTE 12)

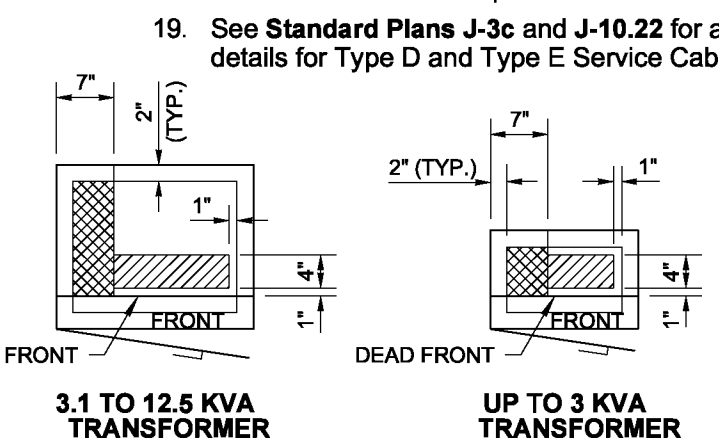
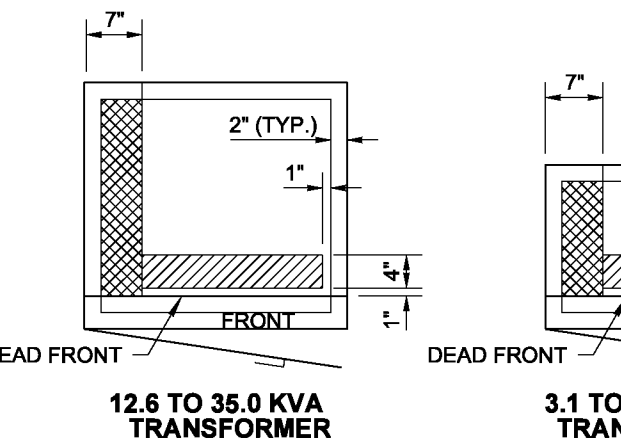
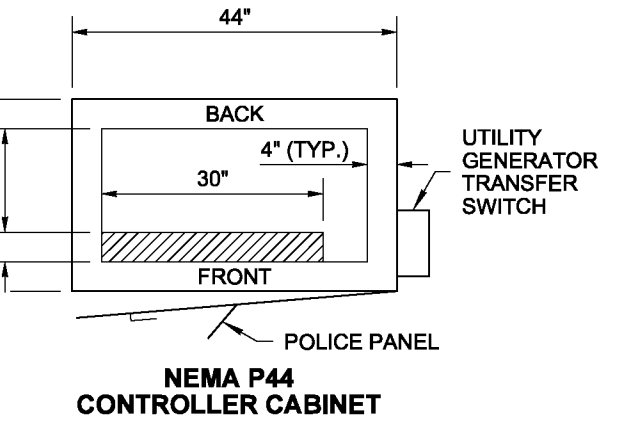
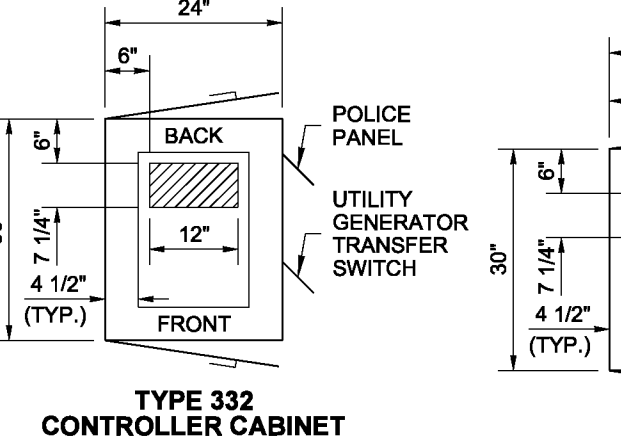
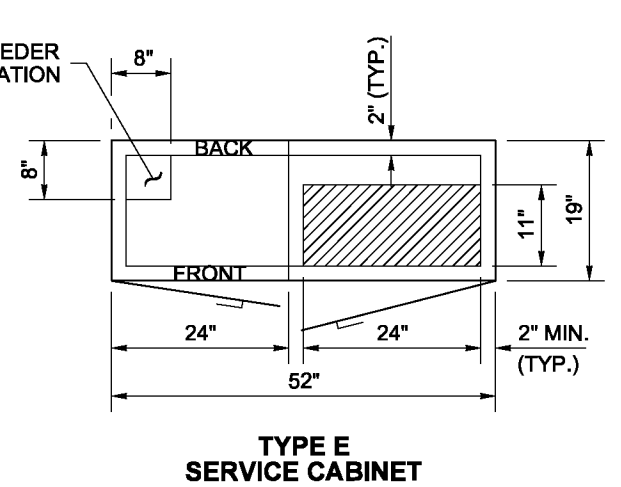
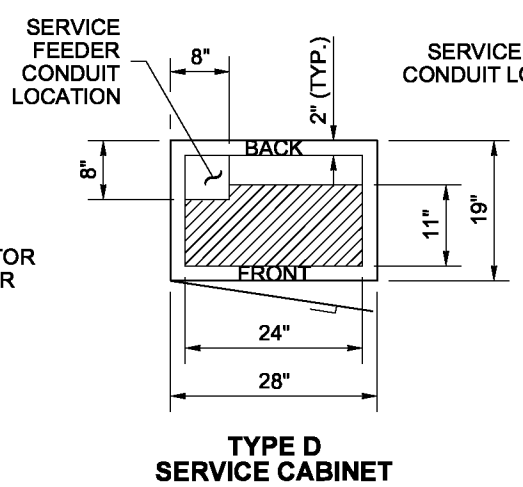
CONSTRUCTION NOTES

- 1 Drive ground rods before placing concrete. Move rod(s) and drain tiles with cover(s) as required to achieve full ground penetration. Maintain a 6' (ft) minimum clearance between ground rods and 6" (in) from foundation edge as detailed on **Standard Plan J-60.05**.
- 2 GRS conduits penetrating all cabinets shall be terminated with grounding end bushing and bonded to the cabinet grounding bus. All PVC conduits penetrating cabinet shall be terminated with end bell bushings.
- 3 Install conduit couplings on all conduits. Place couplings flush with top of concrete. If PVC conduits are specified, the conduit stub and end bell bushing shall not be glued to the coupling.
- 4 4" (in) diam. x 1/2" (in) deep sump. Slope foundation within cabinet footprint toward sump. Drainpipe shall be 3/8" (in) diam. polyethylene or copper tubing.
- 5 The Type D Service shall not be installed on a raised section. All other cabinets shall be installed on 3 1/2" (in) or 9" (in) cabinet footing.
- 6 Cabinet power supply conduit.
- 7 Conduits for service grounding electrodes.
- 8 When distance detailed in Typical Foundation Plan is greater than 8' (ft), this conduit and conductor shall be deleted.



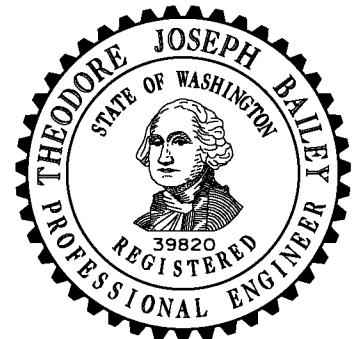
CONTROLLER OR CABINET BASE	SIZE W x D (IN)	CAPACITY CONDUIT DIAMETER (IN)
TYPE 332	24" x 30"	12"
TYPE 332D	48.5" x 30"	24" ①
NEMA P44	44" x 26"	15"
TYPE 333SD	44" x 26"	48" ②
TYPE 334	24" x 30"	12"
TRANSFORMER	SIZE W x D (IN)	
UP TO 3 KVA	18" x 12"	8"
3.1 TO 12.5 KVA	24" x 20"	12"
12.6 TO 35.0 KVA	32" x 30"	15"
UNINTERRUPTIBLE POWER SUPPLY	SIZE W x D (IN)	
332 CABINET	16" x 16"	12"

- ① 12" (IN) OF CONDUIT IN EACH LOCATION SHOWN
② 24" (IN) OF CONDUIT IN EACH LOCATION SHOWN



NOTES

1. The cabinets shown in these details are shown for illustrative purposes only. The Contractor shall verify the plans and substitute those cabinets in place of the cabinets shown in these details. The Contractor shall install each cabinet type in the locations and orientations shown in these details.
2. The Contractor shall install the conduits in the locations shown. Conduits shall extend 2" (in) min. above the coupling. The grounded end bushing on GRS conduit and the end bell bushing on PVC conduit shall extend 3" (in) max. above the coupling. The conduit containing unfused utility conductors shall extend into the utility chase.
3. The ground rods, drain tiles, associated conduits, and #4 rebar (90° with 30" (in) legs), may be omitted if no transformer or service cabinet is to be installed.
4. The cabinets shall be attached to the foundation with 4 each: 1/2" (in) x 12" (in) x 2" (in) x 4" (in) anchor bolts (see Detail on Sheet 4 of 5), washers, and nuts conforming to **Standard Specification 9-06.5(1)** and galvanized after fabrication in accordance with AASHTO M 232. Locate anchor bolts per cabinet manufacturer. Stainless steel epoxy anchors may be used as an alternative, and shall be 1/2" (in) diameter x 9" (in), or 5/8" (in) diameter x 8" (in). All threaded rod (conforming to ASTM F593), washers (conforming to ASTM A240), and nuts (conforming to ASTM F594), shall be Type 304 stainless steel. Bolts shall extend 1-1/2" (in) min to 2" (in) max above the concrete pad.
5. All reinforcing steel shall be embedded 2" (in) below surface of concrete.
6. Place a 1/2" (in) bead of silicone between cabinets and foundation.
7. Two ground rods are required for foundations with a service cabinet or transformer cabinet. See **Standard Plan J-60.05** for details.
8. Concrete shall be class 3000. See **Standard Specification 8-20.3(4)**.
9. Verify dead front locations from manufacturer prior to placing conduit in foundation.
10. Foundations installed in, or adjacent to, sidewalks shall be constructed with the top flush with the sidewalk surface and grade, not including concrete risers for cabinets. Omit chamfers where foundation abuts sidewalk.
11. If the slope is 3H : 1V or steeper, special considerations may be necessary for safety reasons. Coordinate with Maintenance and Project Engineer.
12. For Type 333SD Controller Cabinet, the cabinet vendor shall allow the Utility Transfer Switch to be installed on either side of the Cabinet. The Utility Transfer Switch unit shall be shipped inside the cabinet for field installation by Region Maintenance Personnel.
13. Height of cabinet footings shall be adjusted to serve environmental needs. Adjust length of conduits and rebar accordingly.
14. Use (1) #4 hoop for a 3 1/2" (in) cabinet footing and (2) #4 hoops for a 9" (in) cabinet footing.
15. The Police Panel location is set by Industry Standards on all Controller Cabinets.
16. See **Standard Plan J-3b** for Foundation Construction and Conduit Routing for Type B Modified Service Cabinet with Controller Cabinet.
17. Verify pad size and location with Project Engineer prior to placing.
18. Field bend #4 rebar around the Generator Anti-Theft Tie-Down Unit when required.
19. See **Standard Plans J-3c** and **J-10.22** for additional details for Type D and Type E Service Cabinets.



CABINET ORIENTATION
CONDUIT LAYOUT AND
FOUNDATION DETAIL
STANDARD PLAN J-10.10-02

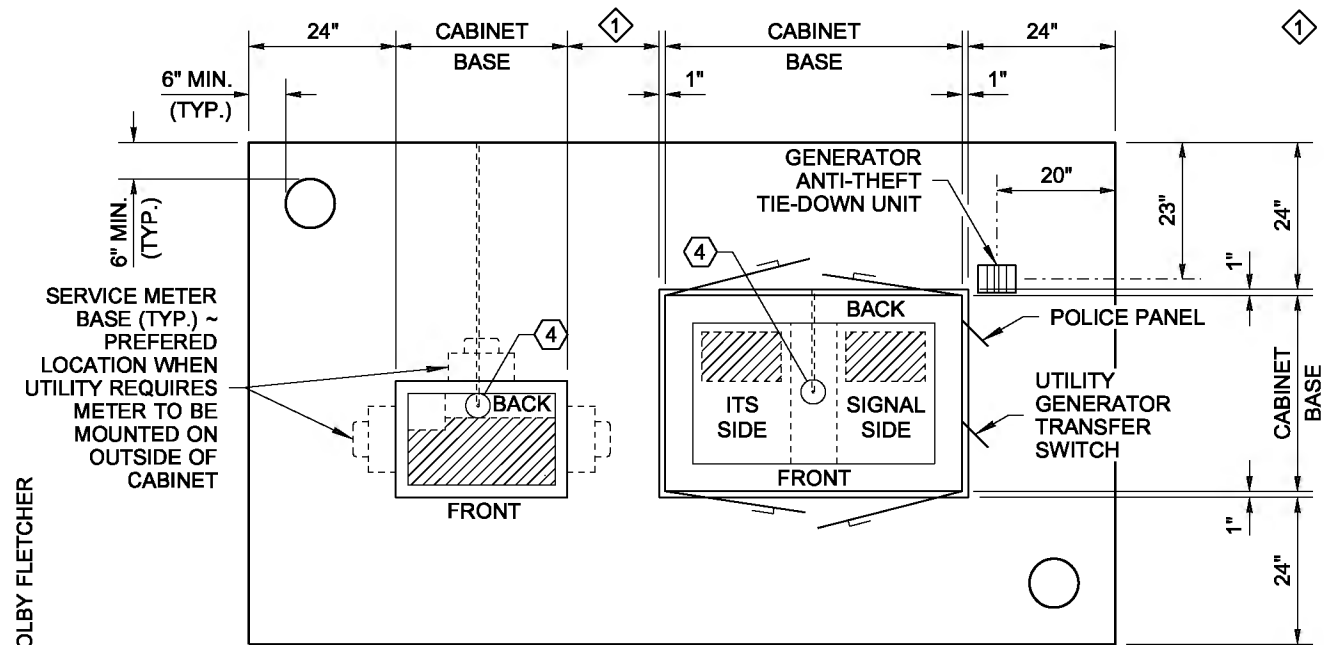
SHEET 1 OF 5 SHEETS

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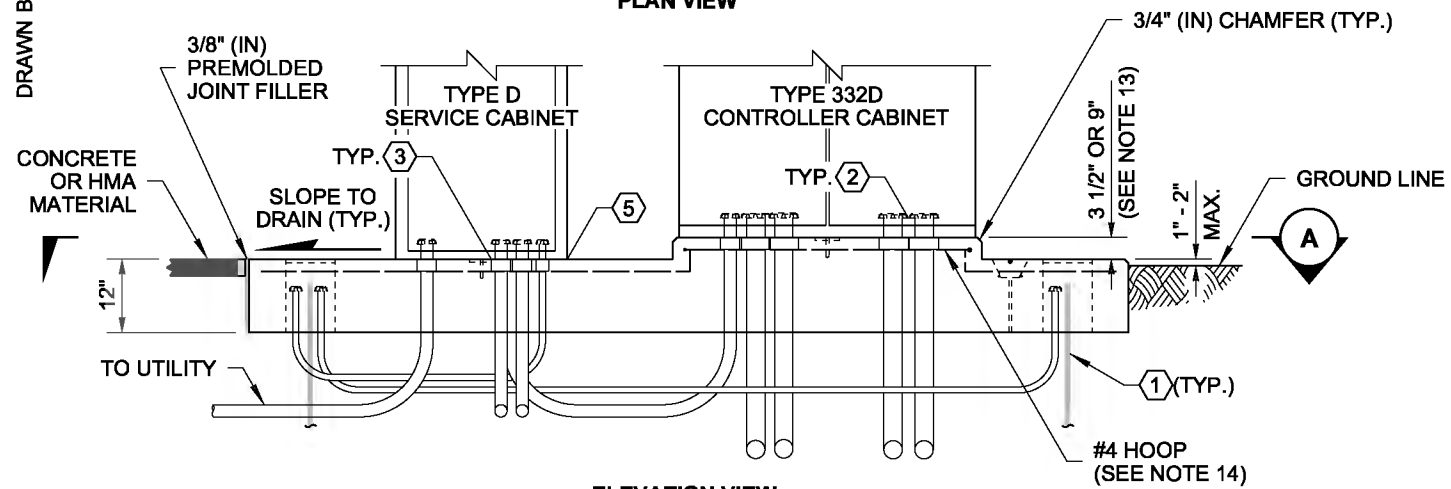
STATE DESIGN ENGINEER
Washington State Department of Transportation

PLAN VIEWS
CABINET FOOTPRINT AND CONDUIT PLACEMENT LOCATIONS

DRAWN BY: COLBY FLETCHER



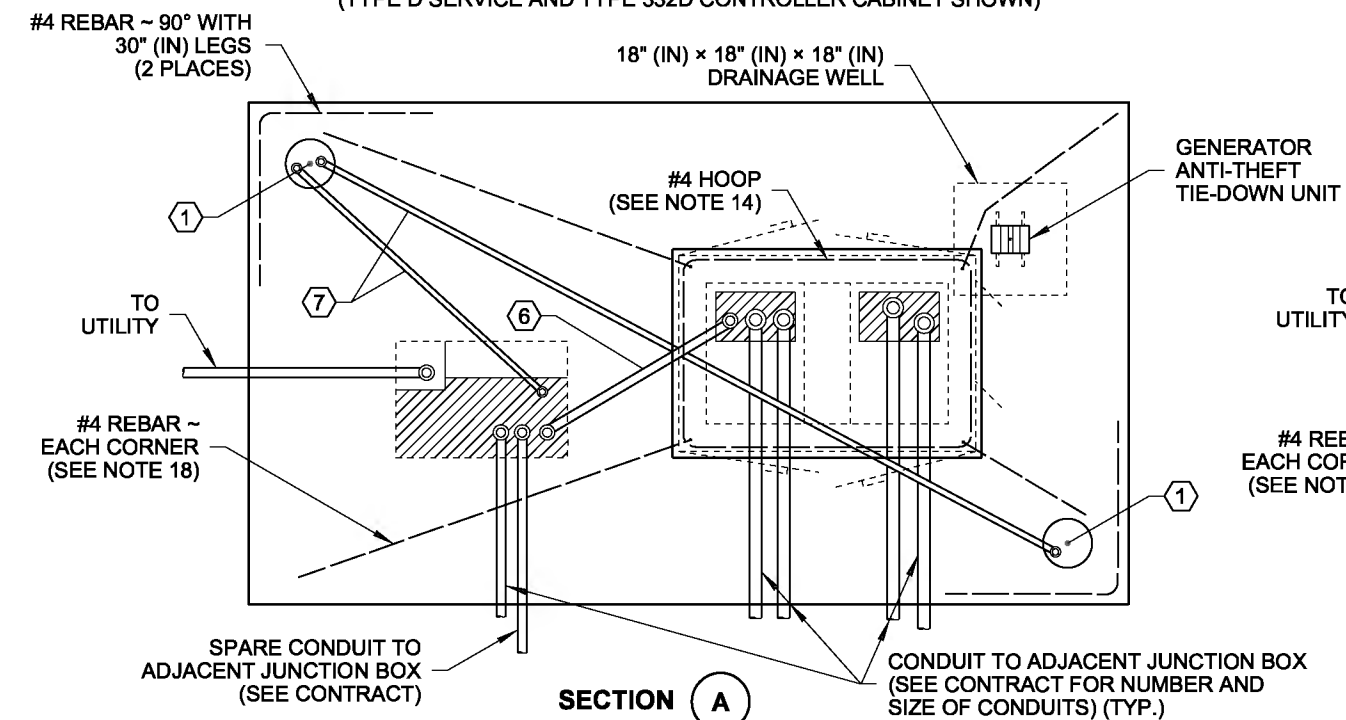
PLAN VIEW



ELEVATION VIEW

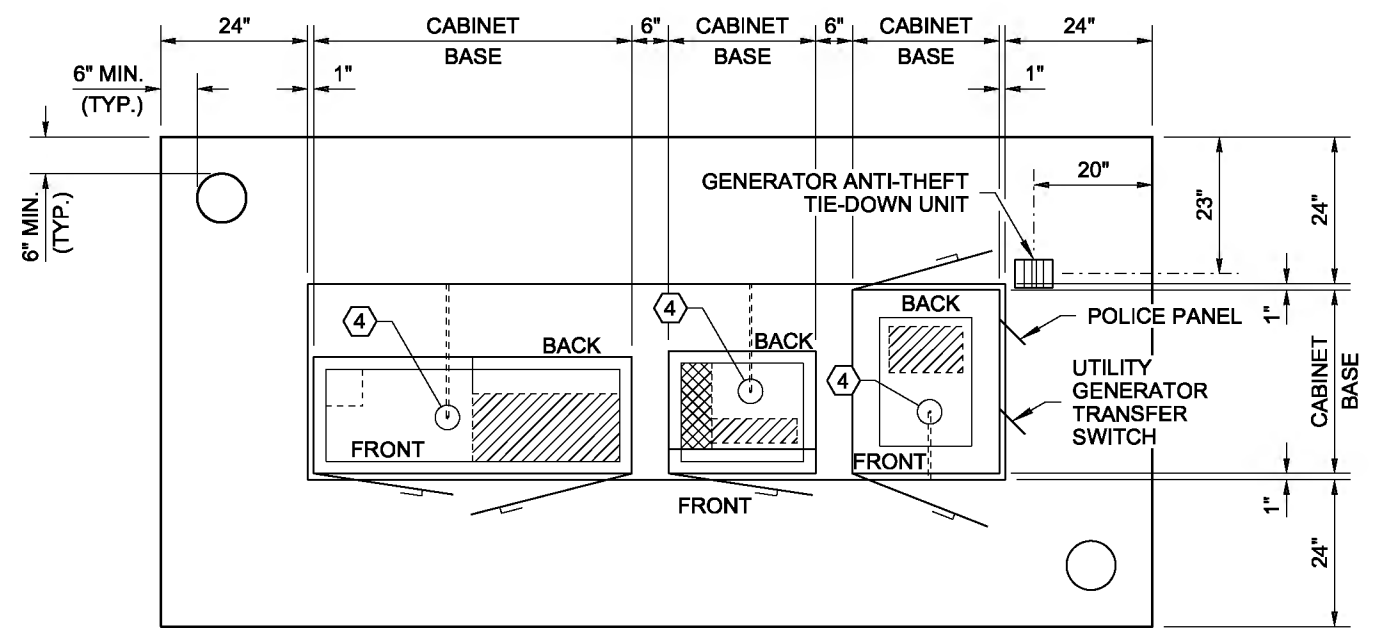
TWO-CABINET FOUNDATION

(TYPE D SERVICE AND TYPE 332D CONTROLLER CABINET SHOWN)

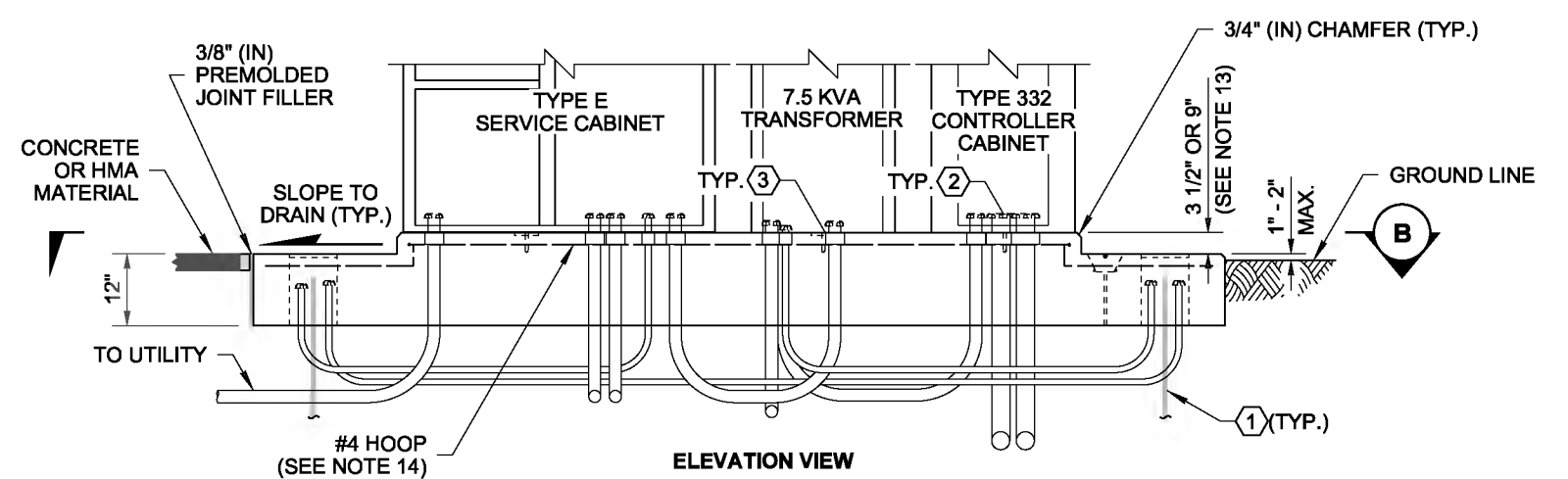


SECTION A

1 With Meter Base mounted on inside of Service Cabinet, allow 6" (in) between Cabinets.
With Meter Base mounted on outside of Service Cabinet, allow 36" (in) from face of meter to adjacent Cabinet. See Standard Plan J-3c.



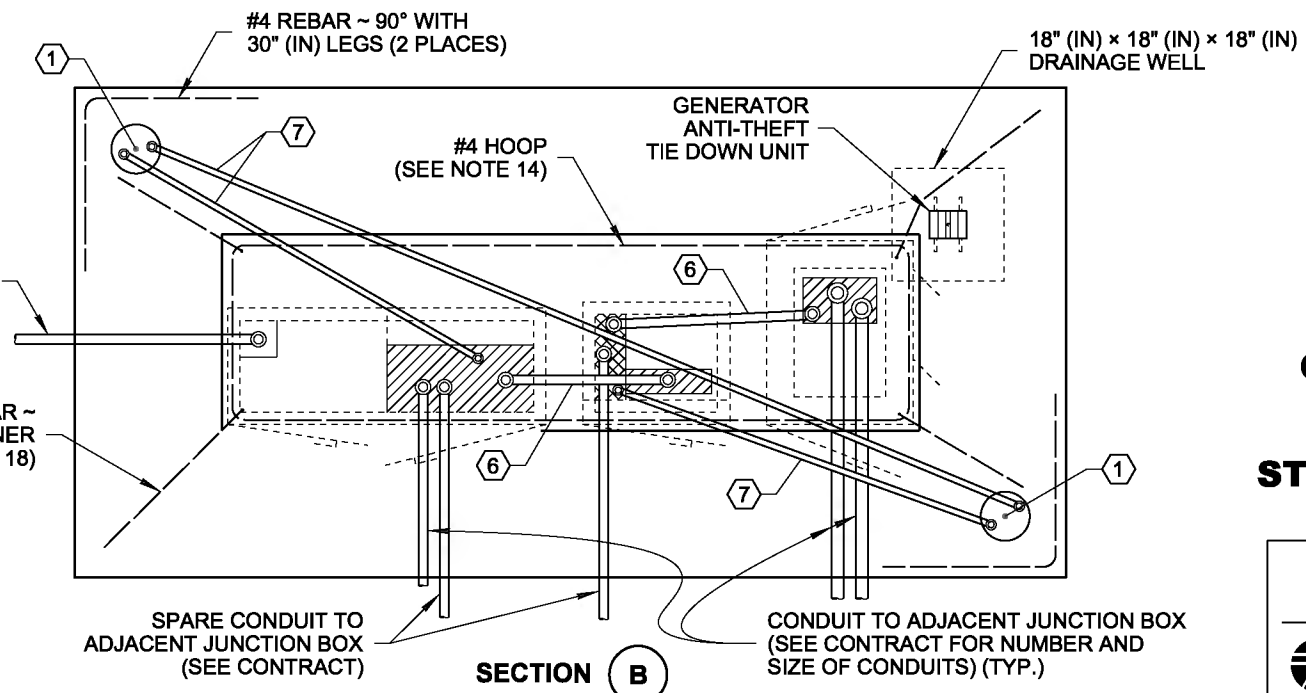
PLAN VIEW



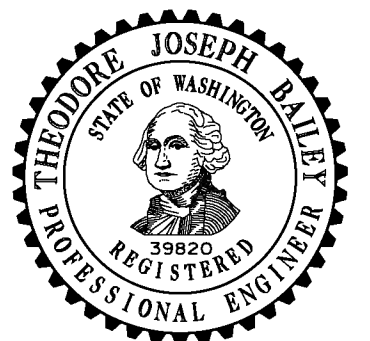
ELEVATION VIEW

THREE-CABINET FOUNDATION

(TYPE E SERVICE, 7.5 KVA TRANSFORMER AND TYPE 332 CONTROLLER CABINET SHOWN)



SECTION B

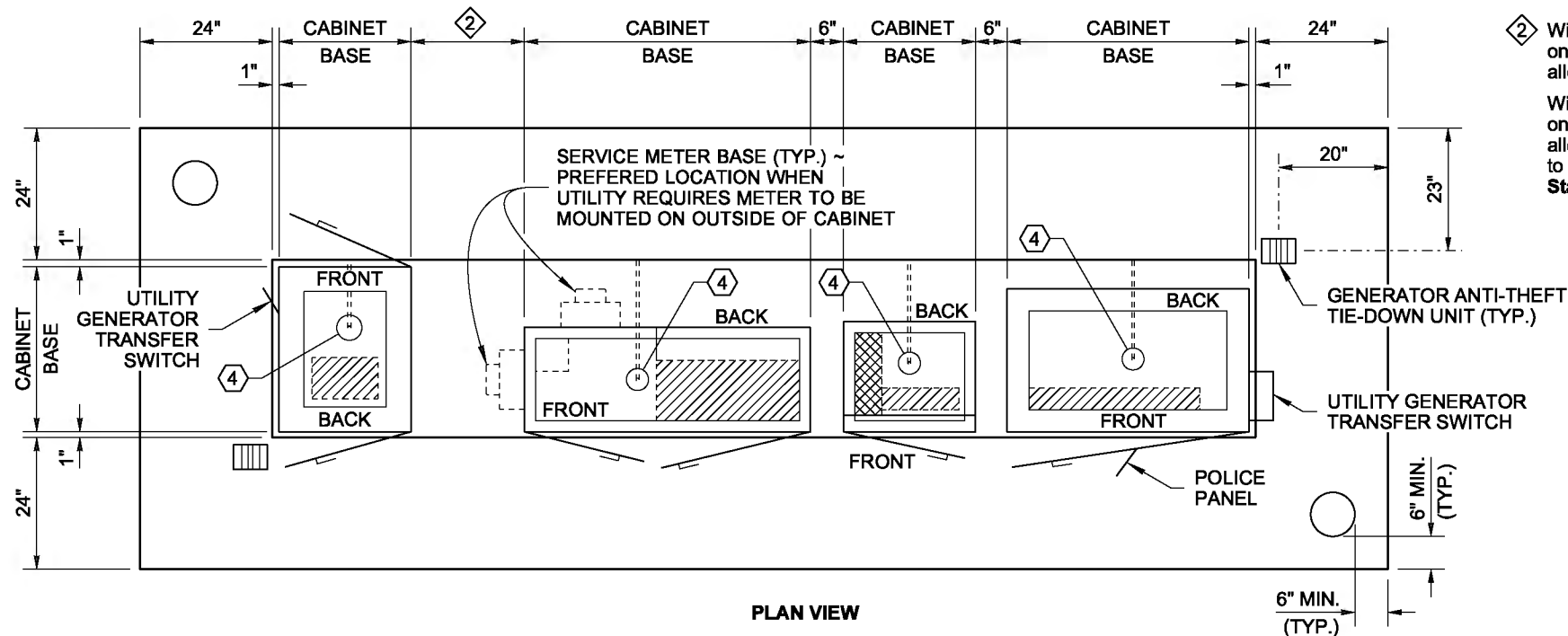


**CABINET ORIENTATION
CONDUIT LAYOUT AND
FOUNDATION DETAIL
STANDARD PLAN J-10.10-02**

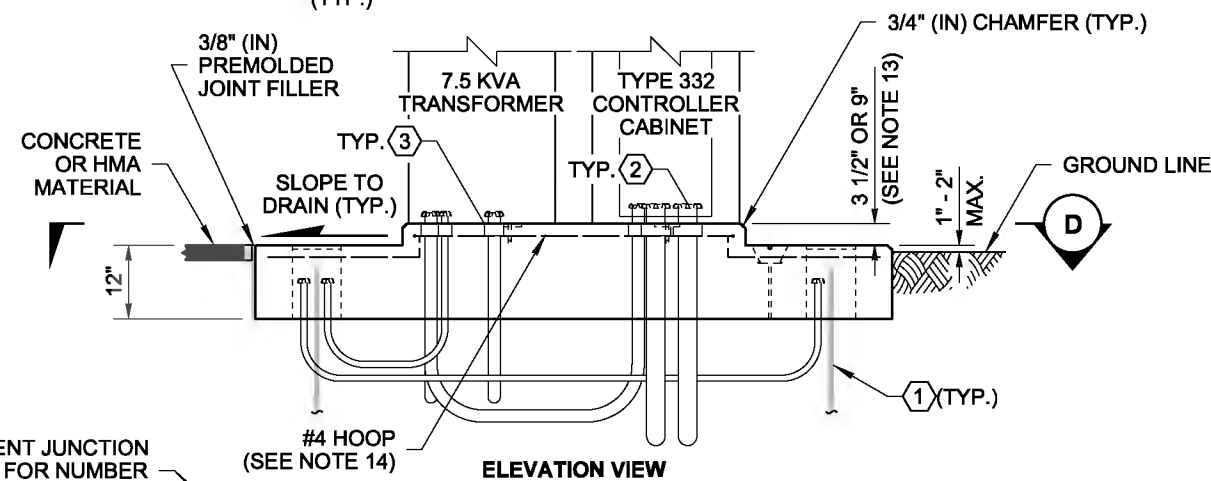
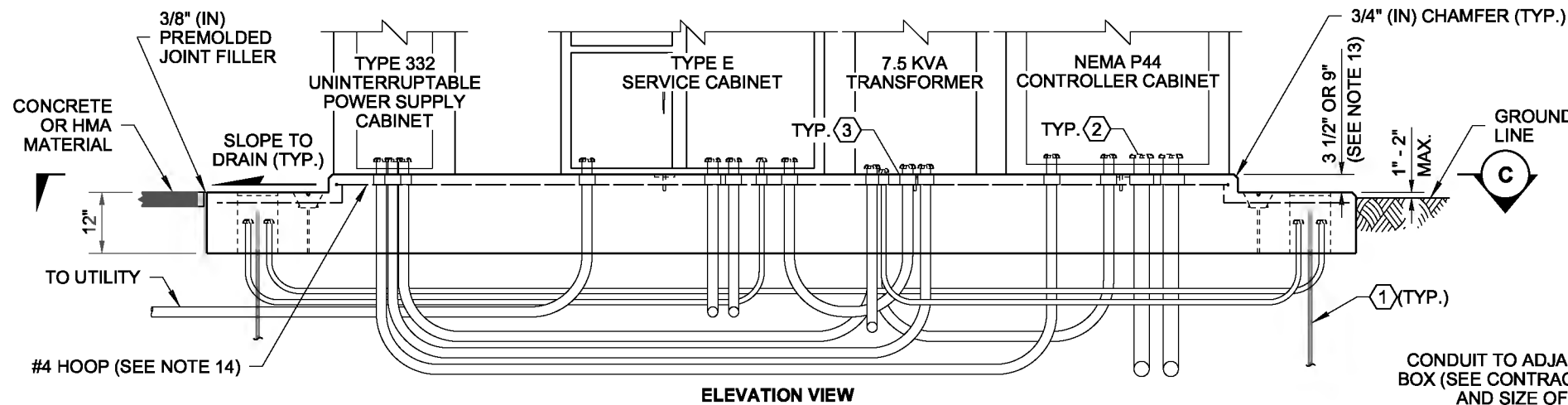
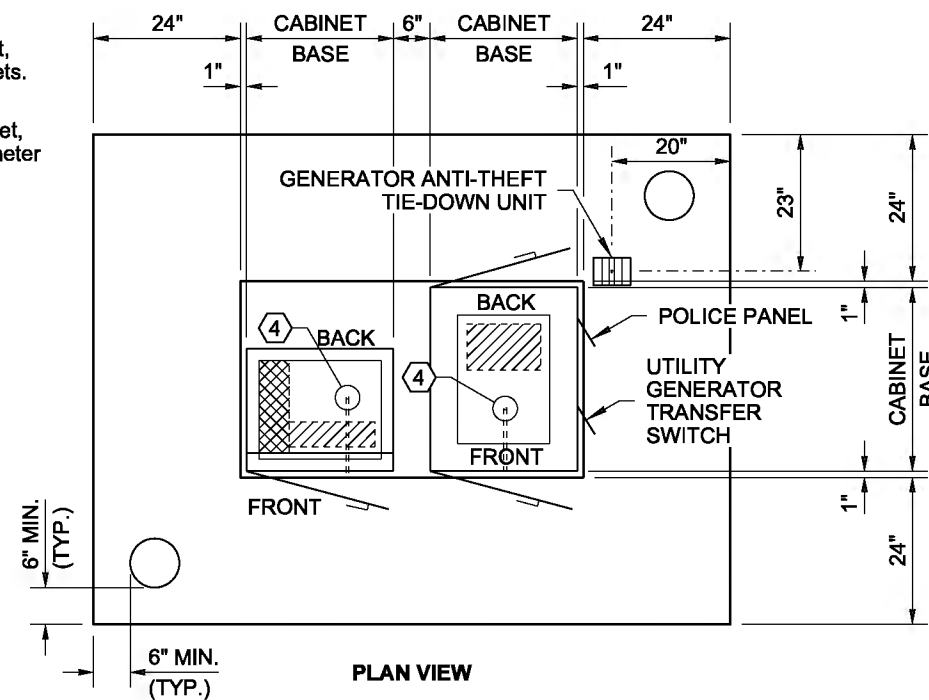
SHEET 2 OF 5 SHEETS

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STATE DESIGN ENGINEER
Washington State Department of Transportation

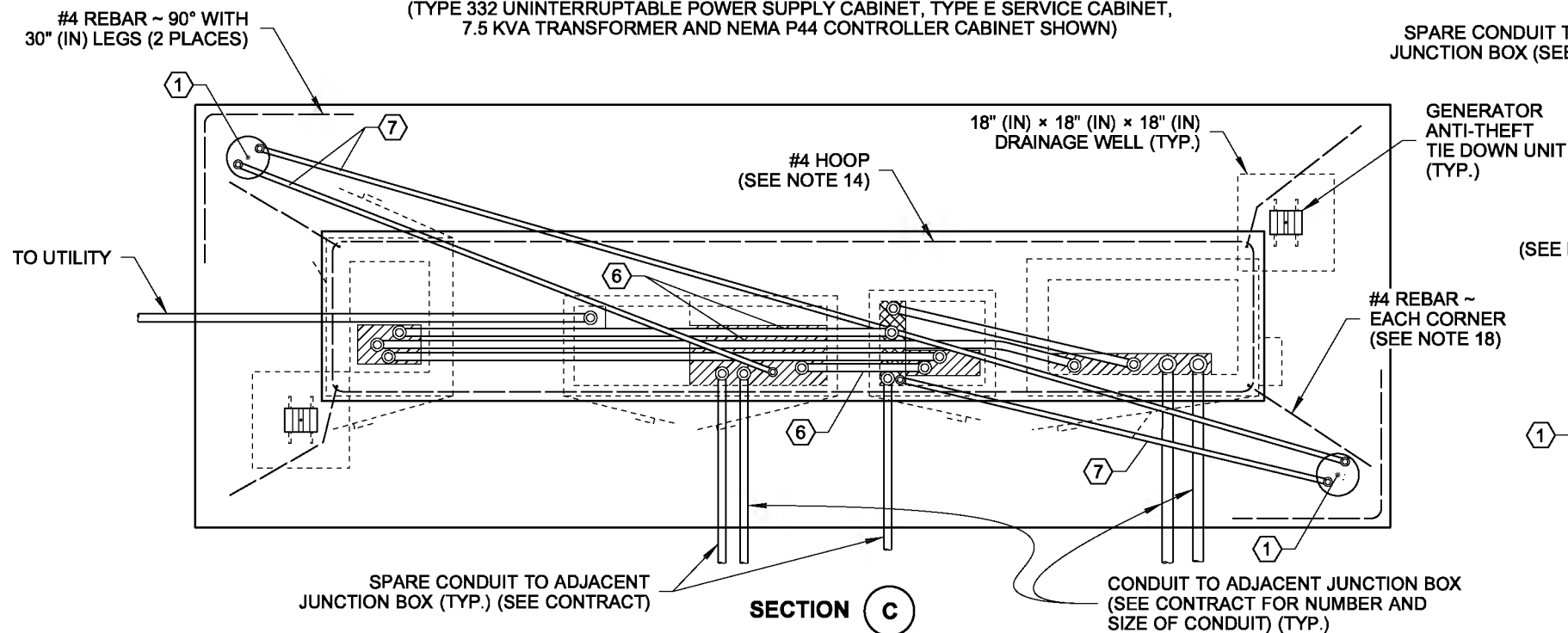


(2) With Meter Base mounted on inside of Service Cabinet, allow 6" (in) between cabinets.
With Meter Base mounted on outside of Service Cabinet, allow 36" (in) from face of meter to adjacent Cabinet. See Standard Plan J-3d.



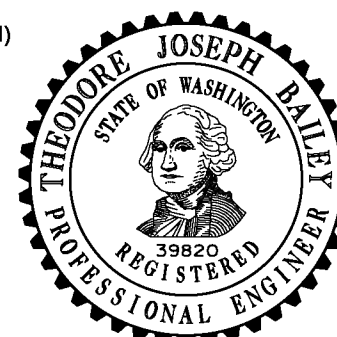
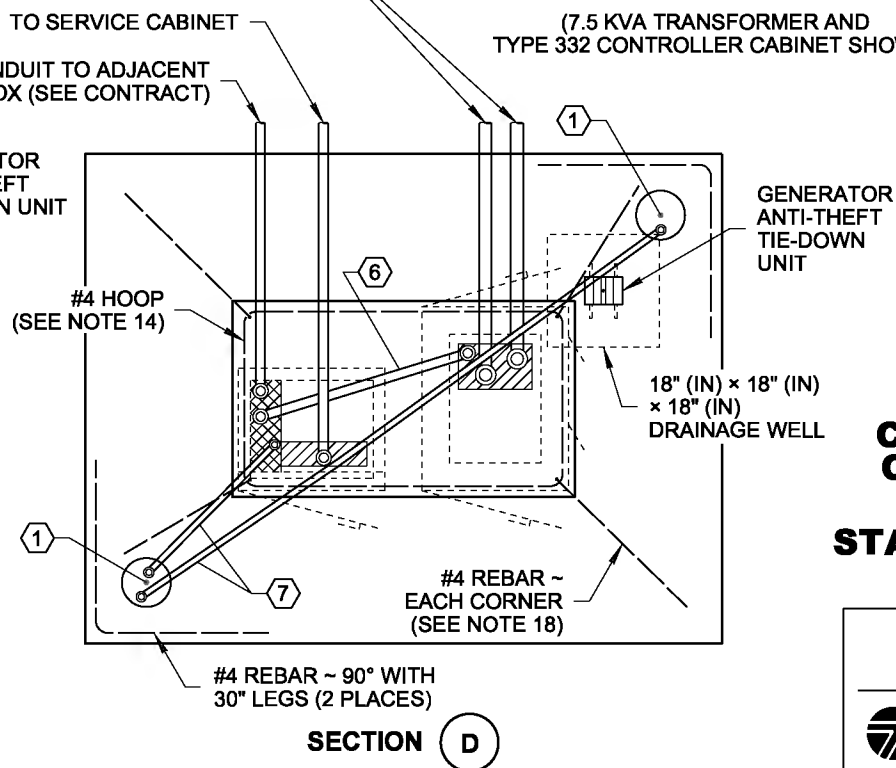
FOUR-CABINET FOUNDATION

(TYPE 332 UNINTERRUPTIBLE POWER SUPPLY CABINET, TYPE E SERVICE CABINET, 7.5 KVA TRANSFORMER AND NEMA P44 CONTROLLER CABINET SHOWN)



TWO-CABINET FOUNDATION

(7.5 KVA TRANSFORMER AND TYPE 332 CONTROLLER CABINET SHOWN)

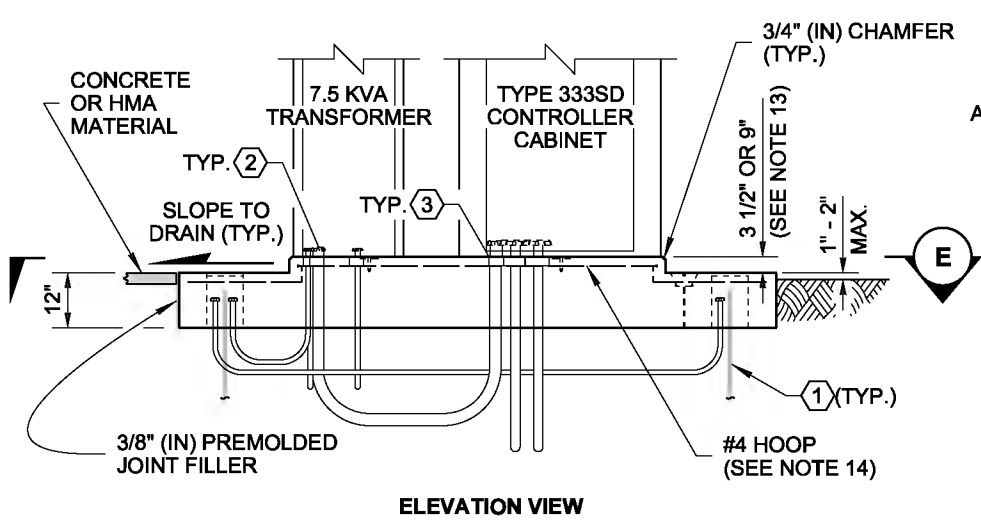
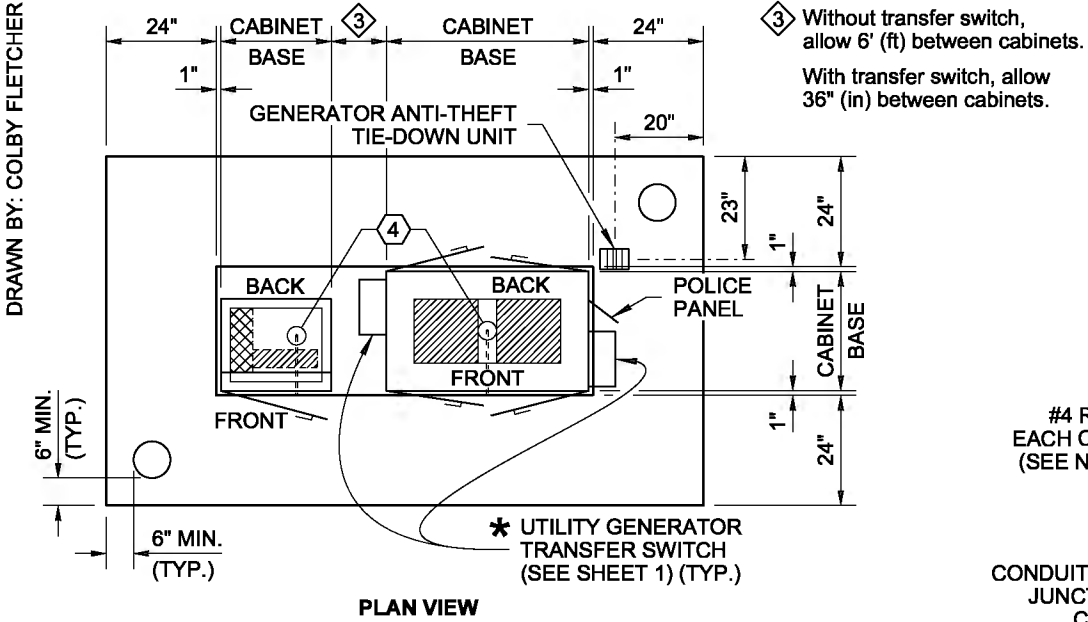


CABINET ORIENTATION CONDUIT LAYOUT AND FOUNDATION DETAIL STANDARD PLAN J-10.10-02

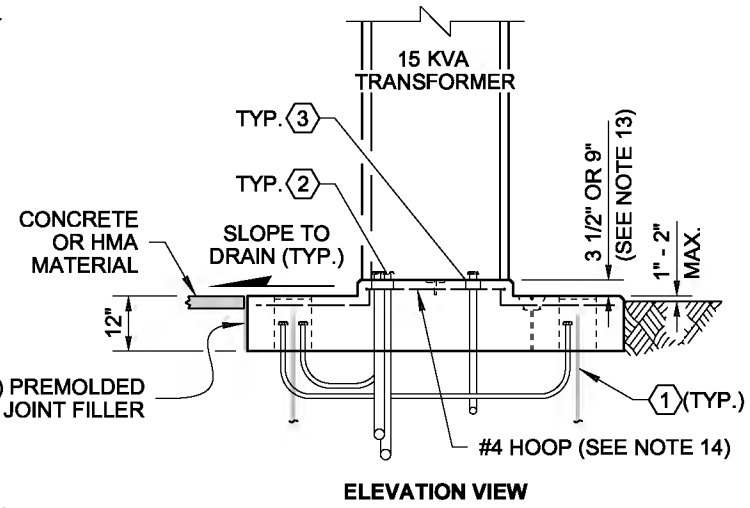
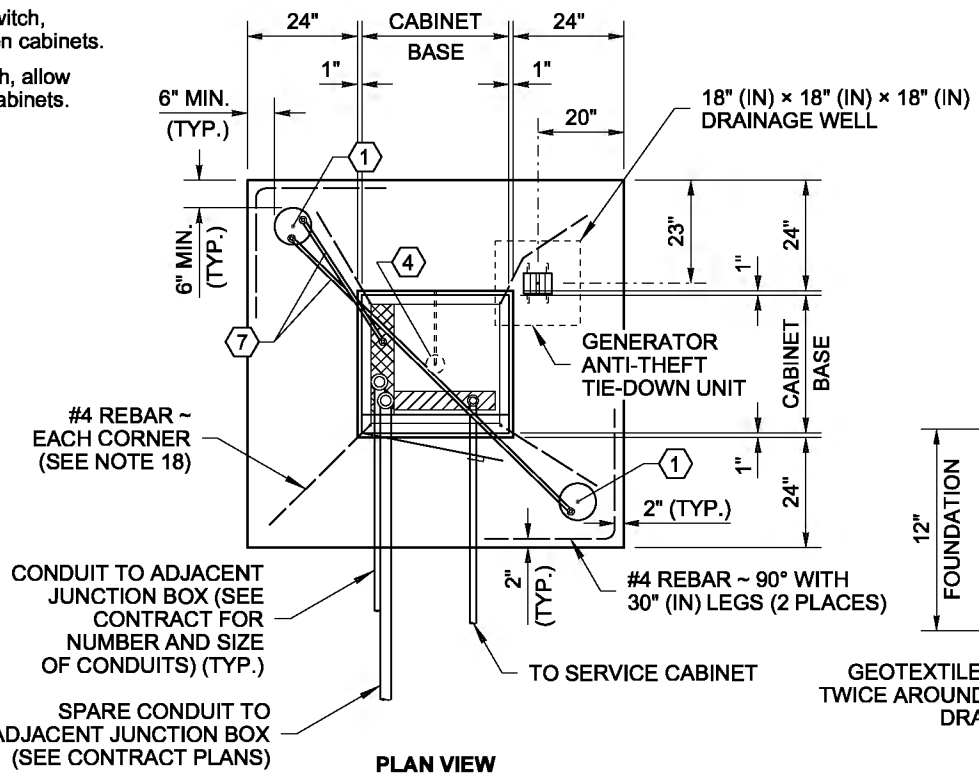
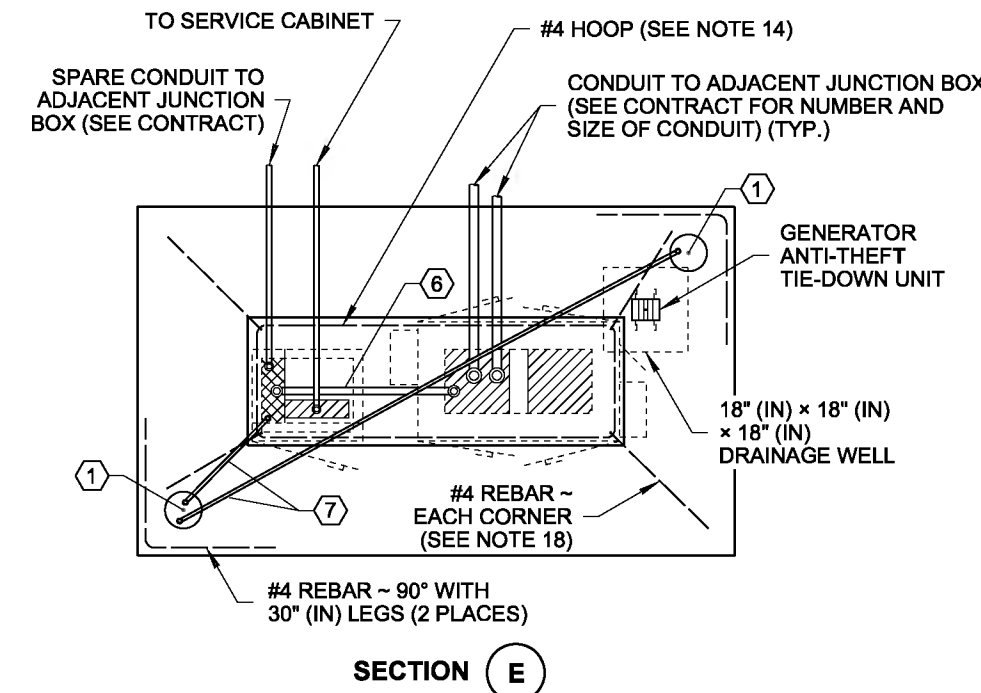
SHEET 3 OF 5 SHEETS

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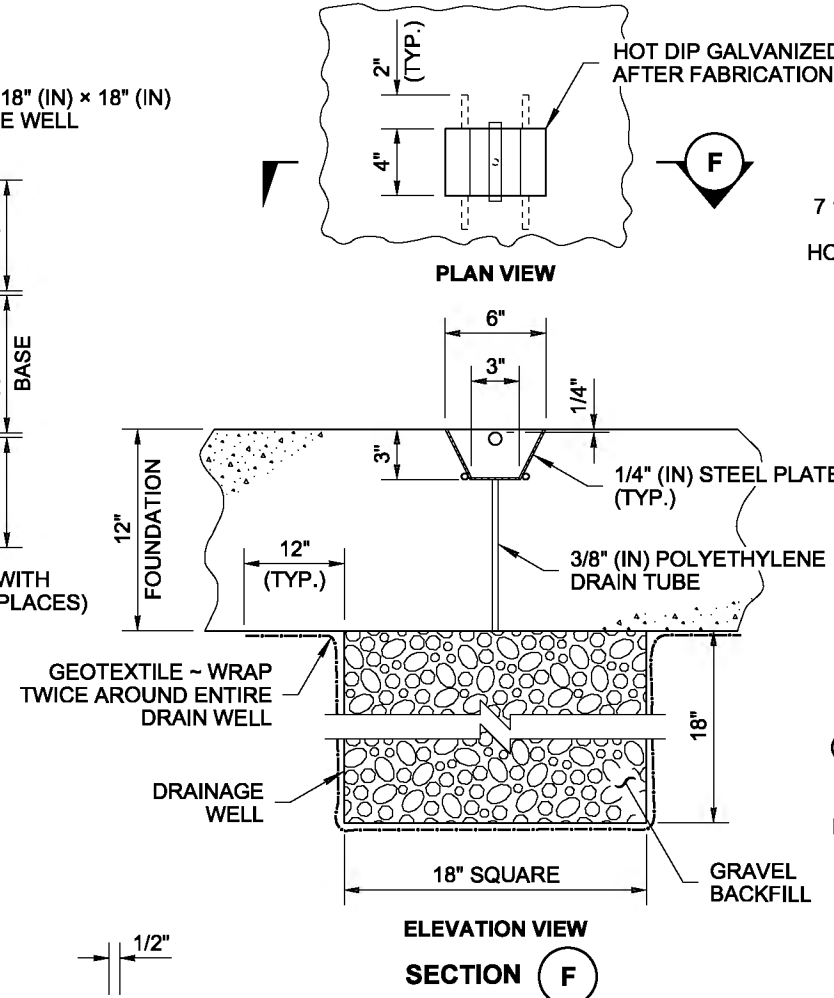
DRAWN BY: COLBY FLETCHER



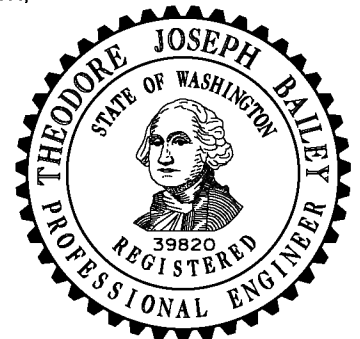
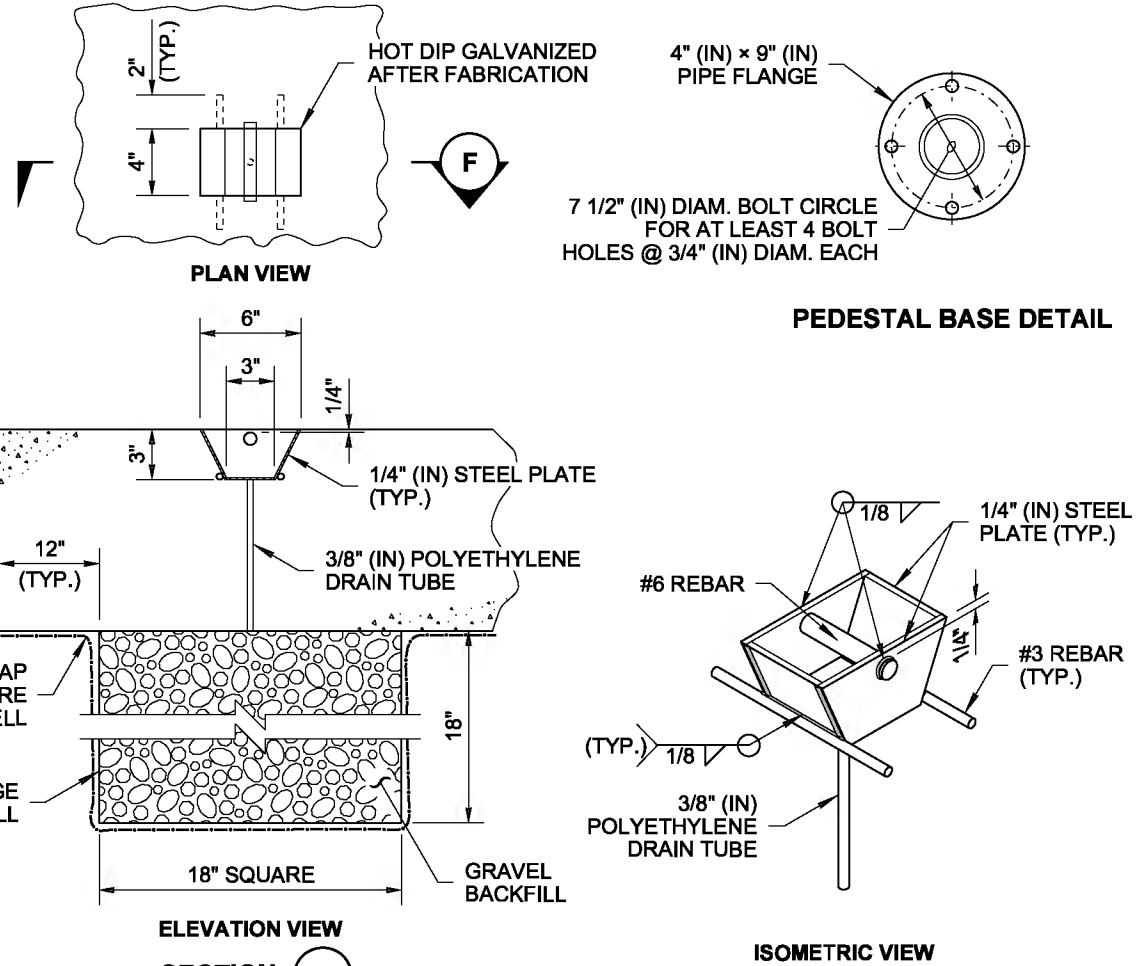
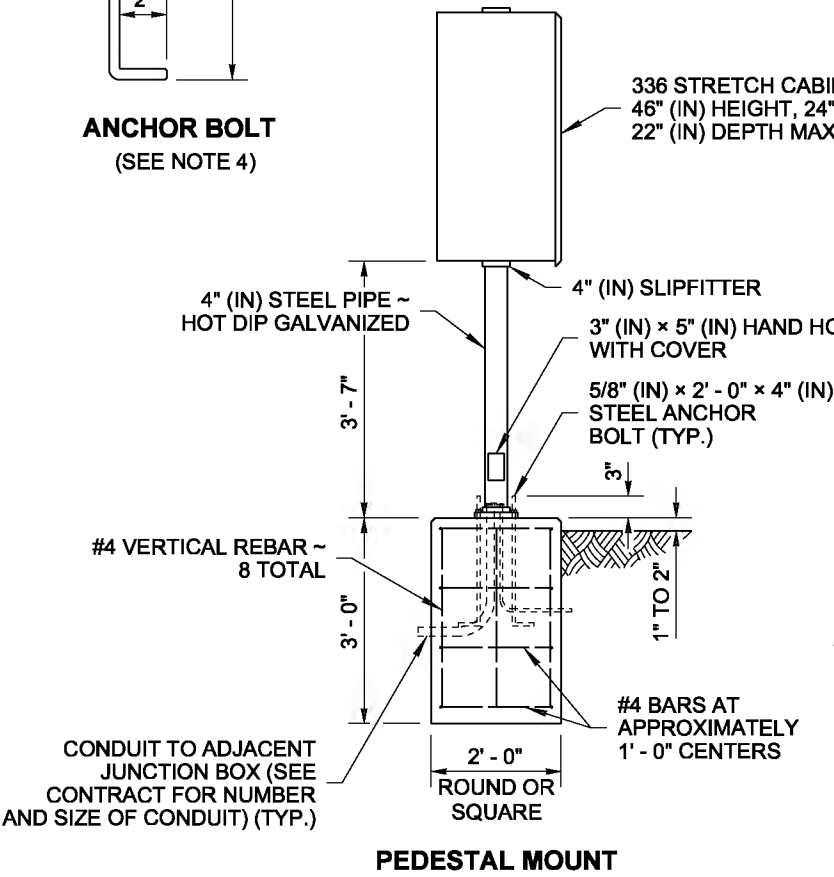
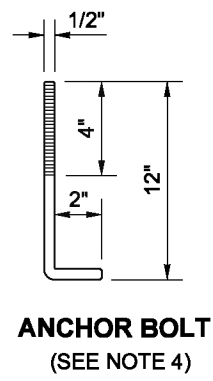
TWO CABINET FOUNDATION
(7.5 KVA TRANSFORMER AND TYPE 333SD CONTROLLER CABINET SHOWN)



SINGLE-CABINET FOUNDATION
(15 KVA TRANSFORMER SHOWN)



GENERATOR ANTI-THEFT TIE-DOWN UNIT
(FABRICATE IF NOT AVAILABLE COMMERCIALY)

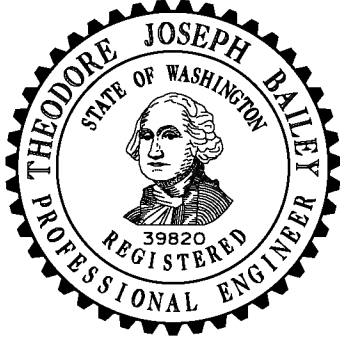
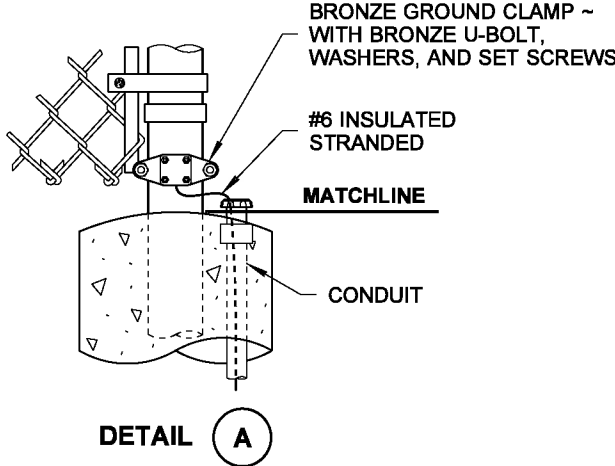
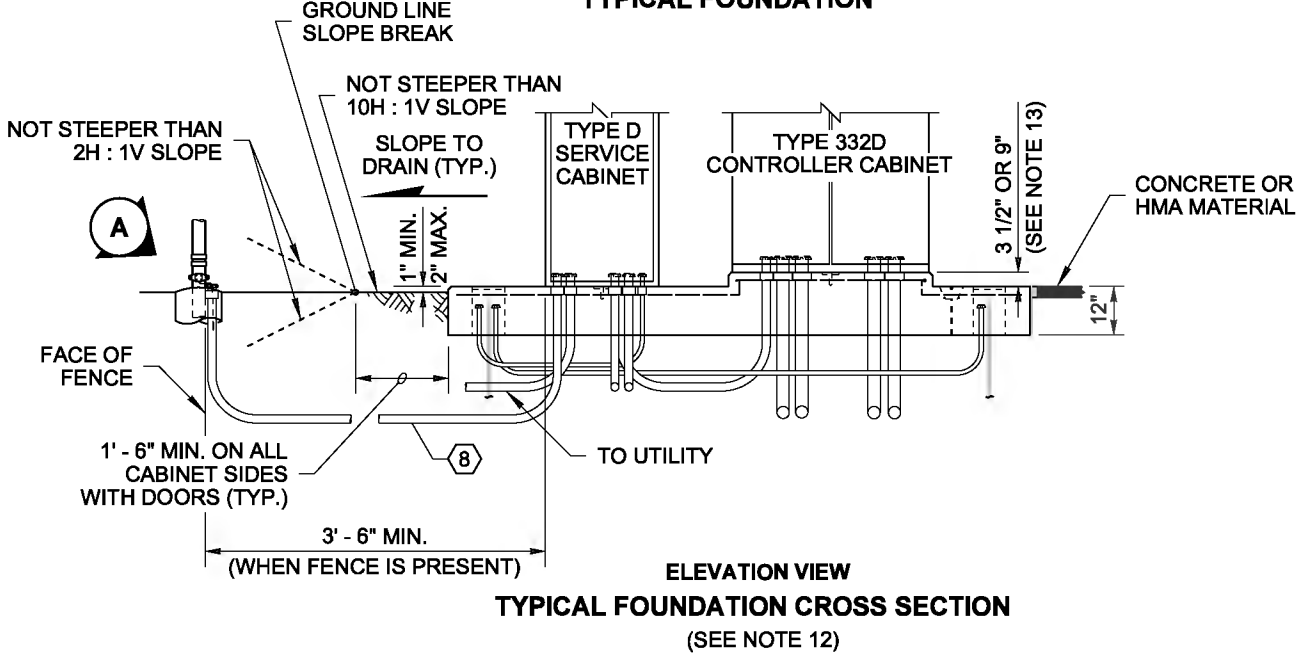
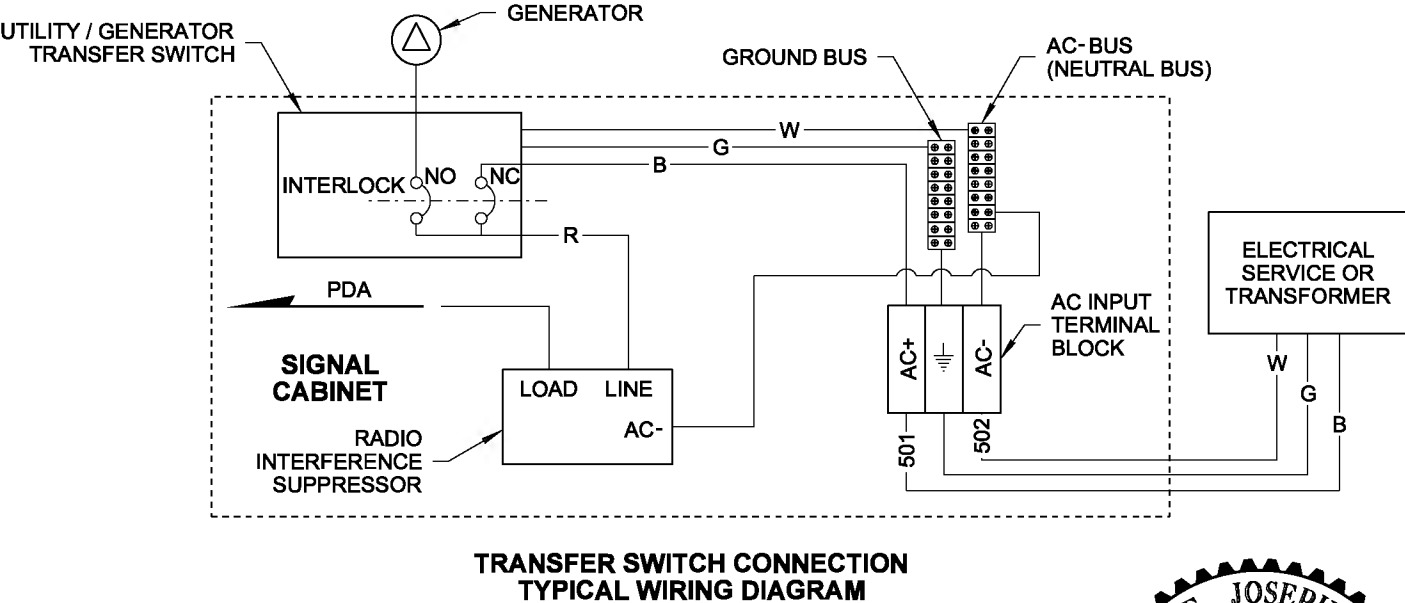
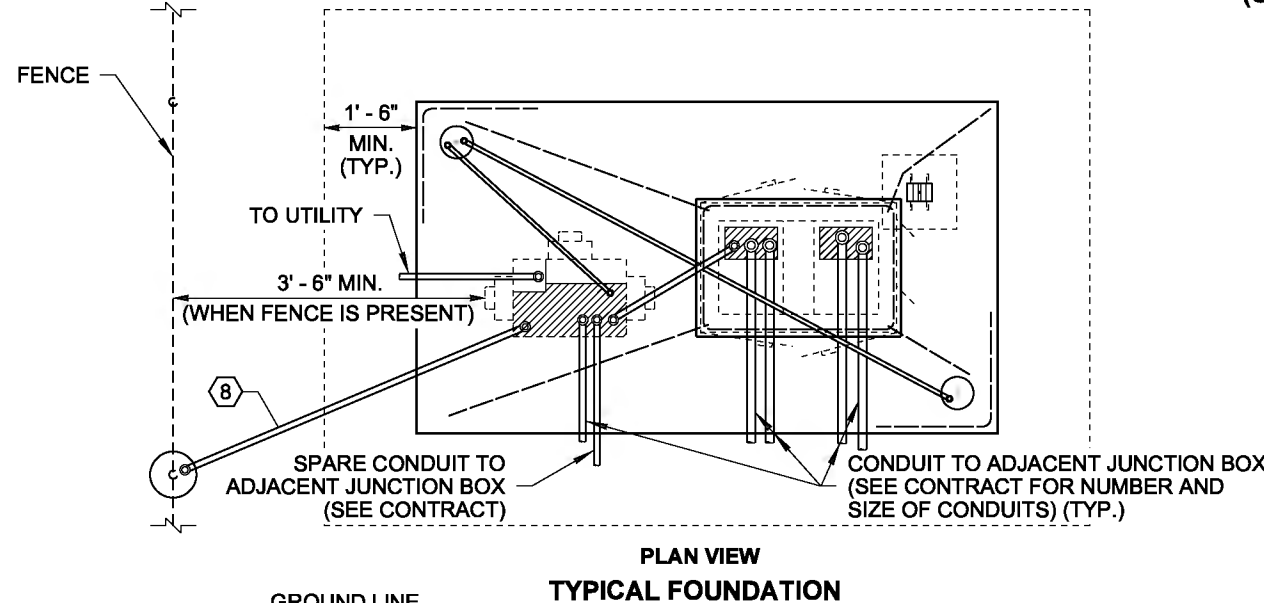
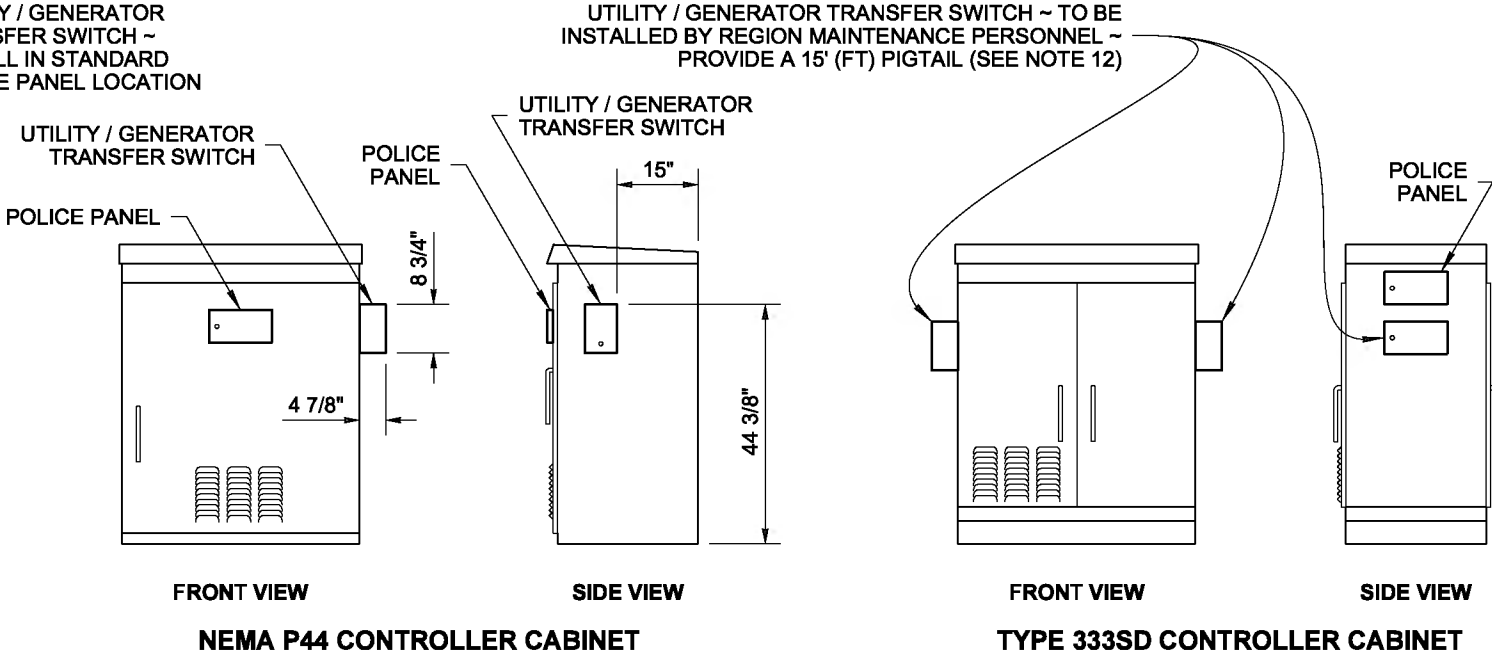
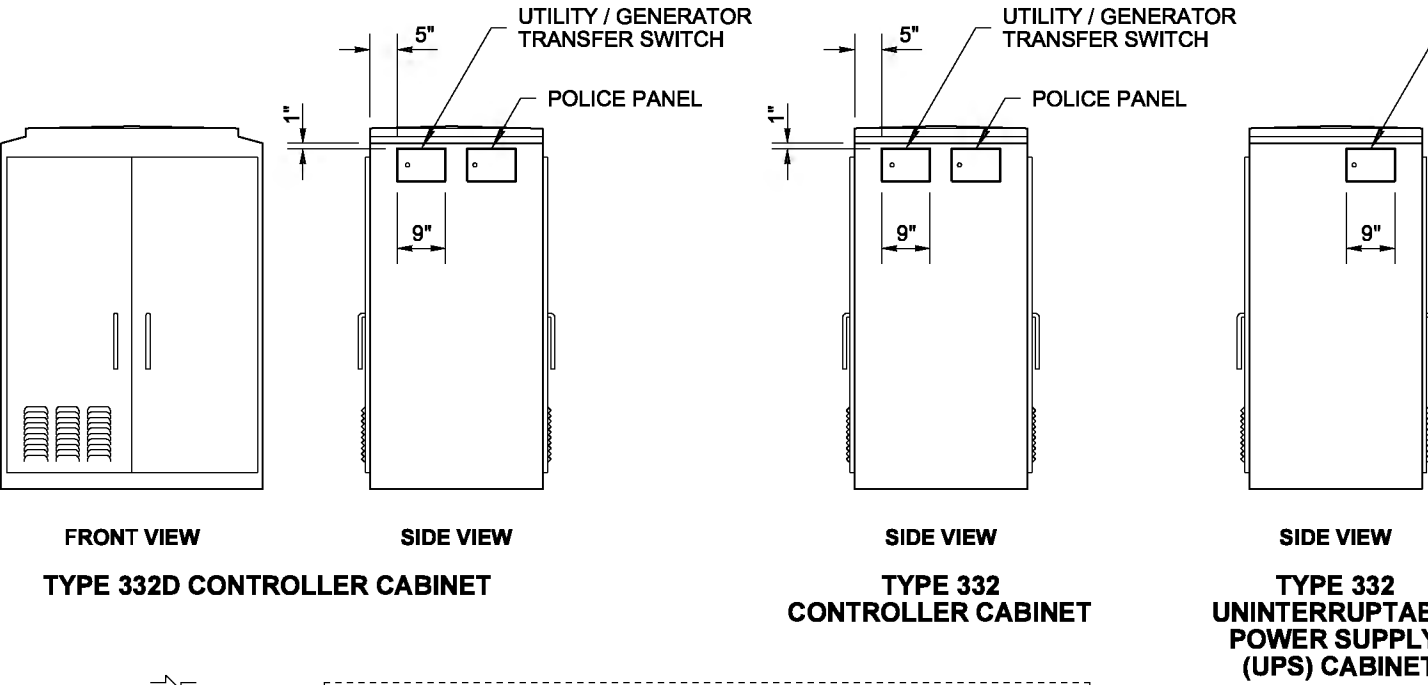


**CABINET ORIENTATION
CONDUIT LAYOUT AND
FOUNDATION DETAIL
STANDARD PLAN J-10.10-02**

SHEET 4 OF 5 SHEETS

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**CABINET ORIENTATION
CONDUIT LAYOUT AND
FOUNDATION DETAIL
STANDARD PLAN J-10.10-02**

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